



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,161	07/08/2003	David Curbow	03226/452002;P6353	9756
32615	7590	11/03/2005	EXAMINER	
OSHA LIANG L.L.P./SUN 1221 MCKINNEY, SUITE 2800 HOUSTON, TX 77010			BEHNCKE, CHRISTINE M	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,161

Applicant(s)

CURBOW ET AL.

Examiner

Christine M. Behncke

Art Unit

3661

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-20 and 22-31 is/are rejected.
- 7) ☒ Claim(s) 5 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Amendment and Remarks filed 09 August 2005, in which claims 1-31 were presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 10, 11, 23 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoo et al., US Patent No. 6,107,942.

3. **(Claim 1)** Yoo et al. discloses a server based method for automatically reporting vacant parking stalls (figures 6-8, Column 5, lines 20-42 and Column 6, lines 8-17) comprising: a) accessing a plurality of digital images (Column 2, line 66- Column 3, line 3), each image associated with a portion of a parking facility and each image covering a plurality of parking stalls (figures 2, 3 and Column 2, line 66- Column 3, line 6); b) performing computerized image processing on each image to automatically detect vacant parking stalls of said plurality of parking stalls (figure 6, Column 3, lines 6-11); c) indexing a map database with information regarding said vacant parking stalls of each image to determine physical locations of vacant parking stalls of said parking facility (figures 6, 8, 11, 14, Column 5, lines 20-25 and Column 6, lines 1-17); and d)

Art Unit: 3661

reporting information regarding a portion of said vacant parking stalls of said parking facility (figures 6, 7, Column 1, lines 39-45 and Column 5, lines 11-25).

4. **(Claim 23)** Yoo et al. discloses a method for determining parking space availability comprising: a) capturing an image of a portion of a parking area (Column 2, line 66-Column 3, line 6 and 49-56); b) transmitting said image to a processor (Column 3, lines 6-18); c) performing computerized image processing on said image to automatically determine available parking spaces within said image (figure 6, Column 3, lines 6-11); d) indexing a map database with information regarding said available parking spaces within said image to determine locations of available parking spaces of said parking area (figures 6, 8, 11, 14, Column 5, lines 20-25 and Column 6, lines 1-17); and e) outputting a location of an available parking space of said parking area to a motorist (figures 11-14 and Column 4, line 59-Column 5, line 25).

5. **(Claims 7 and 26)** Yoo et al. further teaches wherein said parking stall is located in a parking garage (Abstract, lines 1-3).

6. **(Claim 10)** Yoo et al. teaches a computer system comprising a processor coupled to a bus and a memory coupled to a bus, said memory comprising instructions (figure 6, element 25, Column 6, lines 1-17, lines 30-44 and lines 61-66) for executing a method for automatically reporting vacant parking stalls (figures 6-8 and Column 5, lines 20-42) comprising: accessing a plurality of digital images (Column 2, line 66- Column 3, line 3), each image associated with a portion of a parking facility and each image covering a plurality of parking stalls (figures 2, 3 and Column 2, line 66- Column 3, line 6); b) performing computerized image processing on each image to automatically detect

Art Unit: 3661

vacant parking stalls of said plurality of parking stalls (figure 6, Column 3, lines 6-11); c) indexing a map database with information regarding said vacant parking stalls of each image to determine physical locations of vacant parking stalls of said parking facility (figures 6, 8, 11, 14, Column 5, lines 20-25 and Column 6, lines 1-17); and d) reporting information regarding a portion of said vacant parking stalls of said parking facility (figures 6, 7, Column 1, lines 39-45 and Column 5, lines 11-25).

7. (Claim 11) Yoo et al. further discloses a plurality of video cameras for capturing said digital images (figure 1, element 23 and Abstract).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 10, 12-16, 18, 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahill et al., US Patent Application Publication No. 2002/0099574, in view of Yoo et al., US Patent No. 6,107,942.

9. (Claim 1) Cahill et al. discloses a method for automatically reporting vacant parking stalls comprising: accessing a plurality of digital images ([0045] lines 7-12 and figure 1), each image associated with a portion of a parking facility (figure 1) and each image covering a plurality of parking stalls ([0045]); indexing a map database with information regarding said vacant parking stalls of each image to determine physical

Art Unit: 3661

locations of vacant parking stalls of said parking facility ([0007], [0045], and [0068]); and reporting information regarding a portion of said vacant parking stalls of said parking facility ([0037] and [0068]). Cahill et al. further discloses wherein the determination of available parking spaces uses any suitable vehicle detection system including optical recognition. But Cahill et al. does not specifically disclose performing computerized image processing on each image. However, Yoo et al. teaches parking spaces are monitored by a video camera and performing computerized image processing on each image to determine physical locations of vacant parking stalls of said parking facility (Column 3, lines 1-18).

10. **(Claims 10 and 18)** Cahill et al. discloses a computer system comprising a processor (the server 14 which is a computer in data communication with an availability database storing time-base and attribute availability for each space) and a memory (databases 14A, H, and S) comprising instructions for executing a method for automatically reporting vacant parking stalls comprising: accessing a plurality of digital images ([0045] lines 7-12 and figure 1), each image associated with a portion of a parking facility (figure 1) and each image covering a plurality of parking stalls ([0045]); indexing a map database with information regarding said vacant parking stalls of each image to determine physical locations of vacant parking stalls of said parking facility ([0007], [0045], and [0068]); and reporting information regarding a portion of said vacant parking stalls of said parking facility to a mobile computer system accessible to a motorist ([0037] and [0068]). But Cahill et al. does not specifically disclose wherein the processor and the memory are coupled to a bus and performing computerized image

Art Unit: 3661

processing on each image. However, Yoo et al. teaches parking spaces are monitored by a video camera and performing computerized image processing on each image to determine physical locations of vacant parking stalls of said parking facility (Column 3, lines 1-18) and further teaches a computer system comprising a processor coupled to a bus and a memory coupled to a bus, said memory comprising instructions (figure 6, element 25, Column 6, lines 1-17, lines 30-44 and lines 61-66).

11. **(Claim 23)** Cahill et al. discloses a method for determining parking space available comprising: capturing an image of a portion of a parking area ([0045] lines 7-12 and [0068] and figure 1); indexing a map database with information regarding said available parking spaces within using said image to determine locations of available parking spaces of said parking area ([0007], [0045], and [0068]) and outputting the location of an available parking space of said parking area to a motorist ([0037] lines 4-7 and [0068]). Cahill et al. further discloses wherein the determination of available parking spaces uses any suitable vehicle detection system including optical recognition. Cahill et al. does not specifically disclose transmitting a captured image to a processor. However, Yoo et al. teaches parking spaces are monitored by a video camera; the camera transmits the captured image to an image-processing computer (Column 3, lines 6-11) and performing computerized image processing on said image to automatically determine available parking spaces within the image (Column 3, lines 1-18).

12. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the methods and systems of Cahill et al. with the teachings of Yoo

Art Unit: 3661

et al. because as Yoo et al. suggests by using a image processing monitoring system, parking spaces can be reliably verified as being occupied or not and the video camera has an additional feature of being able to record any collisions or other activities, enhancing the security of the parking facility (Column 3, lines 6-22).

13. **(Claims 6, 12 and 22)** Cahill et al. further discloses wherein said information of d) is wirelessly transmitted to a mobile computer system of a motorist and further comprising displaying said information on a display screen of said mobile computer system ([0037] and [0068]).

14. **(Claim 13)** Cahill et al. further discloses a printer for printing a ticket containing said information regarding said vacant parking stalls of said parking facility ([0068]).

15. **(Claims 14 and 15)** Cahill et al. further discloses a parking type database for reporting a type of said vacant parking stalls of said parking facility ([0039]-[0040]) and wherein said type of said vacant parking stalls is compact ([0040]).

16. **(Claim 16)** Cahill et al. further discloses wherein said type of said vacant parking stalls is handicap ([0040], spaces such as 12Z vacant for loading and unloading cargo such as wheel chairs).

17. **(Claim 24)** Cahill et al. further discloses wherein the outputting of the location of available parking spaces is printed on a ticket available to the motorist ([0068]).

18. **(Claim 25)** Cahill et al. further discloses displaying the location of an available parking space on a display screen of a computer system available to the motorist ([0068]).

19. **(Claim 26)** Cahill et al. further discloses wherein the parking space is located in a parking garage (figure 1, [0002], and [0068]).

Claim Rejections - 35 USC § 103

20. **Claims 2 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahill et al. in view of Yoo et al. as applied to claims 1 and 18 above, and in further view of Clapper, US Patent No. 6,147,624.

Cahill et al. discloses wherein the reporting of information regarding a portion of vacant parking stalls is performed by wirelessly transmitting the information to a motorist to direct the motorist to the vacant parking stalls. Neither Cahill et al. or Yoo et al. specifically teach information as being driving directions. However, Clapper teaches a parking management system for allocating available parking space by accessing a plurality of digital images (Column 2, lines 7-13), determining the physical locations of the vacant parking stalls of the parking facility (Column 2, lines 7-21), reporting information regarding a portion of the vacant parking stalls of the parking facility to a mobile computer system accessible to a motorist (Column 2, lines 22-42 and line 58-Column 3, line 1) and wherein said information is driving is driving directions (Column 2, line 58-Column 3, line 1) and wherein the reporting information is performed by wirelessly transmitting said driving directions to a motorist directing said motorist to a vacant parking stall (Column 2, lines 22-42 and line 58-Column 3, line 1).

It would have been obvious to one of ordinary skill in the electronic and navigational art at the time of the invention to combine the method and system taught

by Cahill et al. in view of Yoo et al. with the teachings of Clapper because as Clapper suggests by transmitting the best route of the vehicle to an available space would allow the ability to quickly locate available storage space

Claim Rejections - 35 USC § 103

21. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cahill et al. in view of Yoo et al. as applied to claim 1 above, and in further view of Vita, US Patent No. 5,980,185.

Cahill et al. discloses wherein the reporting of information regarding a portion of vacant parking stalls is performed by printing a ticket containing said parking information of the parking facility. Neither Cahill et al. or Yoo et al. specifically teach wherein the printing of the ticket is given to a motorist at the said parking facility. However, Vita teaches a method wherein parking information, parking location is referenced to and may be encoded on the receipt, is performed by printing the information on a paper ticket given to a motorist at said parking facility (Column 7, lines 59-62). It would have been obvious to one of ordinary skill in the electronic art at the time of the invention to combine the method and device of Cahill et al. in view of Yoo et al. with the parking structure and further teachings of Vita because as Vita suggests the parking guidance system may be fully automated, with microprocessor control of vehicle receipt, positioning in a chosen stall thereby improving the efficiency and the reliability of the delivering parking information to motorists (Column 1, line 65-Column 2, line 5).

Claim Rejections - 35 USC § 103

22. Claims 4, 8, 9, 17, 20, 27- 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahill et al. in view of Yoo et al. as applied to claims 1, 10, 18 and 23 above, and further in view of Dutta et al., US Patent Application Publication No. 2002/0161520.

23. (**Claims 4, 17, 20 and 27**) Cahill et al. in view of Yoo et al. disclose the method of determining parking spaces as described above but do not disclose determining the location of a motorist. However Dutta et al. teaches determining a location of a motorist ([0061] lines 5-11), conveying the location to a server ([0048]-[0050]) and reporting location specific parking available based on said location of the motorist ([0061]-[0062]).

24. (**Claim 8**) Dutta et al. further teaches wherein said parking stall is on-street parking ([0058]-[0060]).

25. (**Claim 28**) Dutta et al. further teaches wherein a global positioning system (GPS) is used to determine said location of said motorist ([0061] lines 5-11).

26. (**Claims 9 and 29**) Dutta et al. further teaches wherein the transmission of the image uses IEEE 802.11 wireless Ethernet protocol ([0019] and [0021] IEEE 802.11 is a standard wireless LAN protocol and the adaptation is commonly known in the art).

27. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method disclosed by Cahill et al. in view of Yoo et al. with the teachings of Dutta et al. to increase the consumer acceptability of the parking assistant device/method by finding the most current and closest available parking to the

Art Unit: 3661

user/motorist's present location and transmit the available information in a high-speed manner.

28. **(Claim 30)** Cahill et al. discloses transmitting the location of available parking spaces to a wireless electronic device of the motorist ([0068]) but does not specify the components of the electronic device. However, Dutta et al. teaches, like Cahill et al, the electronic device may be a notebook computer, PDA, and the like. Dutta et al. further teaches wherein the electronic device comprises: a processor coupled to a bus (elements 302 and 306, figure 3); a memory coupled to said bus (elements 304 and 306, figure 3); a communication circuit coupled to said bus (elements 315 and 306, figure 3); and a display device coupled to said bus (elements 430 and 460, figure 4).

29. **(Claim 31)** Dutta et al. further discloses displaying information about the location of the available parking spaces on the display device ([0046]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method disclosed by Cahill et al. in view of Yoo et al. with the teachings of Dutta et al. because as Dutta et al. suggests the exemplary embodiments of the internal hardware of the client device (figures 3 and 4) are well-known in the art and may be known further as general Personal Digital Assistants, notebook computers, or the like ([0042]-[0044]).

Allowable Subject Matter

Art Unit: 3661

30. **Claims 5 and 21** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

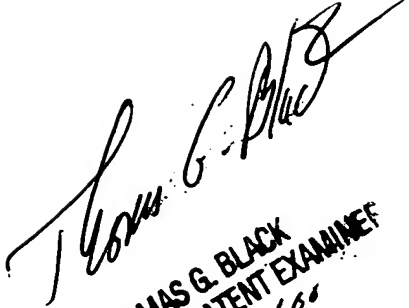
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10-21-2005

Application/Control Number: 10/616,161
Art Unit: 3661

Page 13


THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 3100